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10/046,404

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Bernard M. Werner

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THE ECLIPSE GROUP LLP  
10605 BALBOA BLVD., SUITE 300  
GRANADA HILLS, CA 91344

EXAMINER

DABNEY, PHYLESHA LARVINIA

ART UNIT

PAPER NUMBER

2614

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/046,404	<b>Applicant(s)</b> WERNER, BERNARD M.	
	<b>Examiner</b> PHYLESHA DABNEY	<b>Art Unit</b> 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1, 3-7, 11-19, 21-22, 24-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This action is in response the Amendment received 20 October 2009 in which claims **1, 3-7, 11-19, 21-22, 24-28** are pending.

#### ***Claim Objections***

Claims **25-26** are objected to because of the following informalities: claim dependency is incorrect. Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**1.** Claims **1, 3, 5-7, 11-15, 17-19, 21-22, 24, and 26-28** are rejected under 35 U.S.C. 102(b) as being anticipated by Roozen et al (U.S. Patent No. 5892183).

Regarding claim 1, Roozen teaches an acoustic waveguide (base reflex port, 5), comprising: a first control curve; a second control curve; a third control curve; a fourth control curve (figs. 2-5, wherein port 5 is a round cross-section having a diameter); and a continuous three-dimensional surface coincident with the first control curve, the second control curve, the third control curve and the fourth control curve that intersect a circular throat end (5b) and a non-elliptical closed control surface that defines a mouth (5c).

Regarding claims 3 and 24, Roozen teaches the acoustic waveguide of claim 1 and 14 respectively, wherein the continuous three- dimensional surface further includes: a minimum surface area axial section plane (5a) of the continuous three-dimensional surface formed from the first control curve, second control curve, third control curve, and fourth control curve.

Regarding claims 5, 18, 21, 27, Roozen teaches the acoustic waveguide of claims 1, 12, 13, 14 respectively, wherein the first control curve is symmetrical about an axis with the second control curve (figs. 1-5; col. 3 lines 1-21).

Regarding claims 6, 19, 22, 28, Roozen teaches the acoustic waveguide of claims 5, 12, 13, 14 respectively, wherein the third control curve is symmetrical about the axis with the fourth control curve (figs. 1-5; col. 3 lines 1-21).

Regarding claim 7, it teaches a method corresponding to the apparatus taught in claim 1. The method is inherent in that it simply provides a methodology for the logical implementation found in claim 1.

Regarding claim 11, Roozen teaches the acoustic waveguide of claim 3, where the minimum surface area axial section plane is disposed at a midsection of the waveguide (M; fig. 1) axially between the circular throat end (5b) and the non-elliptical closed control surface (5c).

Regarding claims 12, 15, Roozen teaches an acoustic waveguide, comprising: a first control curve, a second control curve, a third control curve, and a fourth control curve (figs. 2-5, wherein port 5 is a round cross-section having a diameter); a continuous three-dimensional surface swept about a central axis of the waveguide with minimal discontinuities and coincident with the first control curve, the second control curve, the third control curve and the fourth control curve that intersect a circular throat end (5b) and a non-elliptical closed control surface that defines a mouth (5c).

Regarding claim 13, Roozen teaches an acoustic waveguide, comprising: a first control curve, a second control curve, a third control curve, and a fourth control curve (figs. 2-5, wherein port 5 is a round cross-section having a diameter); and a continuous three-dimensional surface coincident with the first control curve, the second control curve, the third control curve and the fourth control curve that intersect a circular throat end (5b) and a non-elliptical closed control surface that defines a mouth (5c), the continuous three-dimensional surface comprising a minimum surface area axial section plane formed from the first control curve, second control curve, third control curve, and fourth control curve, where the minimum surface area axial section plane is disposed at a midsection of the waveguide (M; fig. 1) axially between the circular throat end and the non-elliptical closed control surface.

Regarding claim 14, Roozen teaches an acoustic waveguide, comprising: a first control curve; a second control curve; a third control curve; a fourth control curve (figs.

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2-5, wherein port 5 is a round cross-section having a diameter); and a continuous three-dimensional surface coincident with the first control curve, the second control curve, the third control curve and the fourth control curve that intersect a circular throat (5b) and a non-elliptical closed control surface that defines a mouth (5c), where each of the first, second, third and fourth control curves is convergent-divergent relative to an axial centerline of the waveguide (figs. 2-5, wherein port 5 is a round cross-section having convergent-divergent lines relative to the increase and decrease in diameter).

Regarding claim 15, Roozen teaches the acoustic waveguide of claim 12, wherein the continuous three-dimensional surface further includes a minimum surface area axial section plane (M; fig. 1) of the continuous three-dimensional surface formed from the first control curve, second control curve, third control curve, and fourth control curve.

Regarding claims 17 and 26, Roozen teaches the acoustic waveguide of claim 15 and 23 respectively, where the minimum surface area axial section plane is disposed at a midsection of the waveguide (M; fig. 1) axially between the circular throat end and the non-elliptical closed control surface.

**2.** Claims **1, 3-7, 12, 14-16, 18-19, 24-25, 27-28** are rejected under 35

U.S.C. 102(b) as being anticipated by Welch et al (U.S. Patent No. 4206831).

Regarding claims 1 and 14, Welch teaches an acoustic waveguide (horn, 26), comprising: a first control curve; a second control curve; a third control curve; a fourth control curve (figs. 2-3, wherein horn 26 is a round cross-section); and a continuous three-dimensional surface coincident with the first control curve, the second control curve, the third control curve and the fourth control curve that intersect a circular throat end (near 20) and a non-elliptical closed control surface that defines a mouth (near numeral 38).

Regarding claim 3 and 24, Welch teaches the acoustic waveguide of claims 1 and 14, wherein the continuous three-dimensional surface further includes: a minimum surface area axial section plane (38) of the continuous three-dimensional surface formed from the first control curve, second control curve, third control curve, and fourth control curve.

Regarding claims 4, 16, and 25, Welch teaches the acoustic waveguide of claims 3, 14 and 15 respectively, wherein the minimum surface area axial section plane is at the circular throat end of the acoustic waveguide (figs. 2-3; near 20).

Regarding claims 5, 18 , 27, Welch teaches the acoustic waveguide of claims 1, 12, 14 respectively, wherein the first control curve is symmetrical about an axis with the second control curve (figs. 2-3).

Regarding claims 6 and 19, 28, Welch teaches the acoustic waveguide of claims 5, 12, 14 respectively, wherein the third control curve is symmetrical about the axis with the fourth control curve (figs. 2-3).

Regarding claim 7, it teaches a method corresponding to the apparatus taught in claim 1. The method is inherent in that it simply provides a methodology for the logical implementation found in claim 1.

Regarding claims 12 and 15, Welch teaches an acoustic waveguide, comprising: a first control curve, a second control curve, a third control curve, and a fourth control curve (figs. 2-3, wherein horn 26 is a round cross-section); a continuous three-dimensional surface swept about a central axis of the waveguide with minimal discontinuities and coincident with the first control curve, the second control curve, the third control curve and the fourth control curve that intersect a circular throat end (near 20) and a non-elliptical closed control surface that defines a mouth (near numeral 38).

### ***Conclusion***



Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHYLESHA DABNEY whose telephone number is (571)272-7494. The examiner can normally be reached on Monday through Thursday 9:00-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on 571-272-7547. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
P O Box 1450  
Alexandria, VA 22313-1450

**Or faxed to:**

(703) 273-8300, for formal communications intended for entry and for informal or draft communications, please label "Proposed" or "Draft" when submitting an informal amendment.

**Hand-delivered responses should be brought to:**

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October 18, 2009

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/PHYLESHA DABNEY/

Examiner, Art Unit 2614

/Fan Tsang/

Supervisory Patent Examiner, Art Unit 2614